Overview

History

By the early 1980s, scientific research clearly showed that personal health behaviors played a major role in premature morbidity and mortality. Although national estimates of health risk behaviors among U.S. adult populations had been periodically obtained through surveys conducted by the National Center for Health Statistics (NCHS), these data were not available on a state-specific basis. This deficiency was viewed as critical for state health agencies that have the primary role of targeting resources to reduce behavioral risks and their consequent illnesses.

About the same time as personal health behaviors received wider recognition in relation to chronic disease morbidity and mortality, telephone surveys emerged as an acceptable method for determining the prevalence of many health risk behaviors among populations. In addition to their cost advantages, telephone surveys were especially desirable at the state and local level, where the necessary expertise and resources for conducting area probability sampling for in-person household interviews were not likely to be available.

As a result, surveys were developed and conducted to monitor state-level prevalence of the major behavioral risks associated with premature morbidity and mortality. The basic philosophy was to collect data on actual behaviors, rather than on attitudes or knowledge, which would be especially useful for planning, initiating, supporting, and evaluating health promotion and disease prevention programs. Data derived from the questionnaire provide health departments, public health offices, and policymakers with necessary behavioral information. When combined with mortality and morbidity statistics, these data enable public health officials to establish policies and priorities and to initiate and assess health promotion strategies.

In 1984, the Behavioral Risk Factor Surveillance System (BRFSS) was established to collect prevalence data on risk behaviors and preventative health practices that affect health status. The Centers for Disease and Control and Prevention (CDC) developed a standard core questionnaire for states to use to provide data that could be compared across states. Individual states were also allowed to add questions in order to gather additional information on topics of specific interest to them. The South Dakota Department of Health (SDDOH) initiated the BRFSS in South Dakota in 1987 with the assistance of the CDC. By 1994, all states, the District of Columbia, and three territories were participating in the BRFSS.

Purpose

- The main purpose of the BRFSS at the state level is for Department of Health program support. Each year the optional content of the survey is planned in collaboration with various SDDOH programs in order to gather useful data. The data are then used by the programs in order to determine priority health issues and identify populations at highest risk. This leads to effective program planning, initiation, support, and evaluation of health promotion and disease prevention programs.

- Data collected through the BRFSS is used by the SDDOH to increase awareness and educate the public, the health community, and policymakers regarding health matters through responses to media inquiries, reports, and publications. The report is sent to private and public health officials throughout South Dakota to aid in program efforts to favorably influence public health issues.

- A national agenda has been developed to challenge Americans to improve their health to certain degrees by the year 2010. This agenda is called the ***Healthy People 2010 National Health Objectives***. Its purpose is to commit the nation to the attainment of three broad goals:

  1) Increase the span of healthy life for all Americans;
  2) Reduce health disparities among Americans;
  3) Achieve access to preventive services for all Americans.

  Where appropriate, BRFSS data is used by the SDDOH to measure South Dakota's progress toward Healthy People 2010 goals.

- In 2003, the South Dakota Department of Health developed a set of initiatives with established goals for 2010. These initiatives include four BRFSS indicators as key performance measures. These four indicators are based on body mass index, cigarette smoking, fruit and vegetable consumption, and physical activity. The goals of these performance measures are listed where relevant in this report.

Report Description

The report includes several sections covering major indicators from the survey. Each section is organized in the following manner:

- A definition of the indicator is given.

- The prevalence of the indicator in South Dakota and nationwide, when available, is given.

- The relevant Healthy People 2010 objective is given when applicable, however if a relevant performance measure is available regarding the South Dakota Department of Health 2010 Initiative it is then given in place of the Healthy People 2010 objective.

- A time trend analysis is given for each indicator as far back as comparable data have been gathered. This includes a dashed trend line as well as the actual data results for each available year. Multiple years of data are very valuable for not only analyzing the trend of the indicator, but also help to show the variability in some indicators.

- A comprehensive demographic breakdown is then covered with a table and text. Certain data points from the table have been highlighted with the text, especially when there are significant differences between demographic subgroups. Rates for specific subpopulations are considered significantly different when their confidence intervals do not overlap. This table is important because it can identify demographic subgroups at highest risk.

- A national map is then displayed, when available, that shows the given health indicator among states. States are divided into three categories illustrating those that fall into the

highest third, middle third, and lowest third. Due to ties, the states are not always divided into three equal groups. This map is useful because it can show how South Dakota compares with other states as well as any national geographic patterns.

- A further analysis is then done that illustrates the prevalence of the given health indicator for other health behaviors or conditions. For example, the prevalence of fair or poor health by body mass index, or the prevalence of high blood cholesterol by physical activity. This further analysis is not designed to show the cause and effect of certain behaviors or conditions since there are several factors that influence these indicators. It is simply the prevalence of the given health indicator by the other health behaviors and conditions from the survey. This is a step beyond the demographic breakdown and hopefully helps programs to target their subpopulations of interest even better.

- Any additional data gathered on the given topic will be covered following the further analysis section.

Table 1, below, shows the estimated risk factor rates and the estimated number of persons in South Dakota who are at risk for the selected risk factors. The estimated population at risk was based on 2007 population estimates from the United States Census Bureau. Table 2, on the following page, illustrates the topics covered on South Dakota's BRFSS each year from 1998 through 2007.

Table 1
Estimated Percentage and Number of Persons at Risk Due to Selected Factors (Ages 18 and Older Unless Otherwise Specified): South Dakota BRFSS, 2007

Risk Factor	Estimated % at Risk	Estimated Population at Risk
Body Mass Index - Overweight/Obese (BMI 25.0+)	65.5	392,600
Body Mass Index - Obese (BMI 30.0+)	27.2	163,000
No Leisure Time Physical Activity	22.6	135,400
No Moderate Physical Activity	52.2	312,800
No Vigorous Physical Activity	74.6	447,100
Less Than Five Servings of Fruits and Vegetables	81.4	487,800
Cigarette Smoking	19.8	118,700
Smokeless Tobacco Use	5.8	34,800
Diabetes (18+ Years Old)	6.7	40,200
Diabetes (0-17 Years Old)	0.5	1,000
Diabetes (All Ages)	5.2	41,200
Hypertension	25.5	152,800
High Blood Cholesterol	34.0	203,800
No Health Insurance (18-64 Years Old)	9.7	47,100
No Health Insurance (0-17 Years Old)	2.8	5,500
No Health Insurance (0-64 Years Old)	7.7	52,600
No Flu Shot in Past 12 Months (65+ Years Old)	22.6	25,700
Never had a Pneumonia Shot (65+ Years Old)	36.3	41,200
Haven't Been to the Dentist in the Past Year (1-17 Years Old)	19.8	36,700
No Regular Sun Block Usage	73.1	438,100
Does Not Know About Connection Between HPV & Cervical Cancer	15.6	47,300
Drank Alcohol in Past 30 Days	57.2	342,800
Binge Drinking	17.3	103,700
Heavy Drinking	3.8	22,800

Table 1 (continued)
Estimated Percentage and Number of Persons at Risk Due to Selected Factors (Ages 18 and Older Unless Otherwise Specified): South Dakota BRFSS, 2007

Risk Factor	Estimated % at Risk	Estimated Population at Risk
Ever Had a Heart Attack	4.7	28,200
Have Angina or Coronary Heart Disease	4.0	24,000
Ever Had a Stroke	2.6	15,600
Current Asthma	7.1	42,600
Arthritis	26.8	160,600
Arthritis with Limited Activities	13.2	79,100
Fair/Poor Health Status	12.5	74,900
Physical Health Not Good for 30 Out of Last 30 Days	5.5	33,000
Mental Health Not Good for 20-30 Days of the Past 30 Days	5.0	30,000
Usual Activities Unattainable for 10-30 Days of the Past 30 Days	5.7	34,200
Dissatisfied with Life	3.6	21,600
Physical, Mental, or Emotional Disability	18.2	109,100
Disability with Special Equipment Needed	6.2	37,200
Two or More Hours of TV a Day	72.7	435,700
Never Been Tested for HIV (18-64 Years Old)	76.4	371,100
Special Health Conditions in Children - (0-17 Years Old)	9.9	19,500
Victim of Sexual Violence	1.9	11,400
Diarrhea in Past 30 Days	14.4	86,300

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 2007

Table 2
Topics Covered on the South Dakota BRFSS, 1998-2007

Topics	Year									
	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
Alcohol Consumption	X	X	X	X	X	X	X		X	
Arthritis	X		X		X		X			
Assets									X	
Asthma	X	X	X	X	X	X	X	X		
Asthma - Children			X		X	X	X			
Asthma History							X			
Binge Drinking					X					
Cancer		X							X	
Cardiovascular Disease	X	X	X	X		X				
Care Giving								X		
Cholesterol Awareness	X		X		X	X	X		X	
Colorectal Cancer Screening		X		X		X	X		X	
Diabetes	X	X	X	X	X	X	X	X	X	X
Diabetes - Children	X	X	X	X	X	X				
Disability	X	X	X	X	X		X			
Emotional Support & Life Satisfaction	X	X	X							
Environmental Factors				X						
Exercise	X	X	X	X	X	X	X	X		X
Falls		X			X					
Family Planning				X		X		X	X	X
Firearms				X		X	X			
Folic Acid						X		X		X
Food Handling/Safety					X	X		X		
Food Poisoning										X
Gastrointestinal Disease	X									
Health Care Access	X	X	X	X	X	X	X	X	X	X

Table 2 (continued)
Topics Covered on the South Dakota BRFSS, 1998-2007

Topics	Year									
	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998
Health Care Coverage - Children	X	X	X	X	X	X	X	X	X	X
Health Care Coverage and Utilization				X		X				
Health Status / Healthy Days	X	X	X	X	X	X	X	X	X	X
Healthy South Dakota - Name Recognition		X	X							
HIV/AIDS	X	X	X	X	X	X	X	X	X	X
Hypertension Awareness	X		X		X	X	X		X	
Immunization	X	X	X	X	X	X	X	X	X	
Immunization - Children			X							
Injury - Children					X	X	X		X	X
Injury Control/Seat Belts		X				X	X		X	
Nutrition/Fruits & Vegetables	X		X		X	X		X	X	X
Oral Health		X		X		X			X	
Oral Health - Children	X		X		X		X	X		
Physical Activity	X	X	X		X		X			
Prostate Cancer Screening		X		X		X	X			
Sexual Behavior									X	X
Sexual Violence	X									
Special Health Conditions - Children	X	X	X		X	X	X	X		X
Sun Exposure / Skin Cancer	X			X	X			X	X	
Tobacco - Smokeless	X	X	X		X		X			
Tobacco Indicators	X	X	X		X		X			
Tobacco Products							X			
Tobacco Use	X	X	X	X	X	X	X	X	X	X
Television Viewing	X		X	X						
Veteran's Status / Health		X	X	X	X					
Weight Control	X		X		X	X		X		X
West Nile Virus		X	X	X						
Women's Health	X	X		X	X	X	X	X	X	X

Source: The Behavioral Risk Factor Surveillance System, South Dakota Department of Health, 1998-2007